IDEM Nonrule Policy Document

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Title: Regulatory Status of Hazardous Waste Evaporators
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Brief Description of Subject Matter: Indiana Department of Environmental Management guidance on the regulatory status of evaporators and guidelines for use of evaporators for treatment of Hazardous Waste under Indiana's Hazardous Waste Regulations.

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Use of Waste Evaporators

During the last several years the department has seen an increase in requests for information regarding the use of evaporators for the treatment of hazardous waste by generators. As used herein the term "evaporators" refers to devices that are used to intentionally evaporate a hazardous waste or constituent of a hazardous waste to the air. The term does not include sludge dryers associated with wastewater treatment tank systems permitted under the Clean Water Act or treatment units permitted under the Resource Conservation and Recovery Act. The department has on numerous occasions observed situations involving evaporation of hazardous waste in a manner which violates hazardous waste management standards. Under limited circumstances the use of certain types of evaporators by generators is allowable under the hazardous waste rules. This guidance is intended to respond to those requests from generators and address the concerns of IDEM's hazardous waste program and air program.

Indianas Hazardous Waste regulations are codified at 329 IAC 3.1. These rules incorporate by reference, with minor exceptions, federal standards for management of hazardous waste codified at 40 CFR 260 through 270 and 273. The standards that apply to generators depend on the amount of regulated hazardous waste generated in a calendar month and the total amount accumulated at any one time. Regulatory status may vary from month to month if generation rates or accumulated quantities vary. The rules distinguish among three (3) classes of generators on this basis. The smallest and least regulated class is referred to as Conditionally Exempt Small Quantity Generators (CESQGs) and is governed by 40 CFR 261.5. The remaining two classes often referred to as Small Quantity Generators (SQGs) and Large Quantity Generators (LQGs) are governed by 40 CFR 262. Requirements for SQGs are less stringent than for LQGs. If you are uncertain of your regulatory status written guidance is available from the department or you may contact the department for regulatory assistance.

Standards for SQGs and LQGs, at 40 CFR 262.34 of the hazardous waste rules, require that generators manage their waste only in tanks, containers, containment buildings, or in some instances on drip pads. Standards for CESQGs are not written with as much specificity as to type of units or conditions. For practical purposes and to avoid violations due to releases to the environment the types of units utilized by SQGs and LQGs are the most feasible and likely units for CESQGs to use to manage their hazardous waste. The rules do not prohibit treatment by generators in these units if certain conditions are met. Generators may also treat their waste under some circumstances in totally enclosed treatment systems, elementary neutralization units, and wastewater treatment tanks which discharge a treated effluent regulated by the Clean Water Act. This document will only address the circumstances under which evaporation of hazardous waste may occur from units regulated by the hazardous waste program without obtaining a hazardous waste permit from the department.

Small and Large Quantity Generators are required to minimize releases of hazardous waste or hazardous waste constituents to the environment pursuant to 40 CFR 265. 31. The department does not consider the intentional discharge of hazardous waste or hazardous waste constituents to the environment via intentional evaporation to be consistent with this requirement. Likewise, the intentional discharge to the air is not an approved means of handling waste for Conditionally Exempt Small Quantity Generators pursuant to 40 CFR 261.5. However the department does not consider the use of evaporators for aqueous waste to be in violation of these requirements if only water is being evaporated. This would limit their use to aqueous waste that does not contain volatile hazardous constituents (VHCs) unless the VHCs are first removed by filtration or captured in some manner. Due to de minimis losses of volatile materials at a facility and the low detection limits currently possible, wastewaters often contain detectable levels of VHCs. In addition filtration devices do not remove to absolute zero. For practical purposes the department will consider a wastewater to be “only” water if it contains less than one (1) part per million VHCs.

Taking the above requirements into account, the department has determined that the only types of units that may be used for evaporation purposes by generators without permits and without violation of generator management standards would be tanks or tank systems. The tanks must be designed, operated and maintained in accordance with the applicable requirements of 40 CFR 265, Subpart J and 40 CFR 262.34 if the status of the generator is SQG or LQG. CESQGs are not required to follow these specific standards but should keep in mind the overriding requirement for all categories of generators is that hazardous waste constituents must not be intentionally released to the environment. A properly designed

and operated tank system with appropriate prefiltration of VHCs or capture mechanism for VHCs should meet this requirement.

"Tank" and "Tank system are defined at 40 CFR 260.10 as follows:

"Tank means a stationary device, designed to contain an accumulation of hazardous waste which is constructed of primarily non-earthen materials (e.g., wood, concrete, steel, plastic) which provides structural support."

"*Tank system* means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system."

The tank design and operating standards for LQGs are specified at 40 CFR Part 265 Subpart J. The standards for LQGs are beyond the scope of this guidance. LQGs should consult the rules and contact the department for assistance if necessary before installation and use of a tank.

There are no specific design or operating standards for any type of units specified at 40CFR 261.5 for CESQGs. CESQGs need only maintain and operate their evaporator in a manner that prevents release of VHCs to the environment to be in compliance.

SQGs are only subject to portions of the tank standards applicable to LQGs at 40 CFR 265 Subpart J. SQGs must comply with the following requirements:

1. Do not place hazardous waste in a tank if it may cause rupture, leaks, corrosion, or otherwise cause the tank to fail.
2. Keep tank covered or provide at least two feet of freeboard (space at the top of the tank) in uncovered tanks.
3. Inspect any monitoring or gauging systems on each operating day and inspect the tanks themselves for leaks or corrosion every week.
4. Use the National Fire Protection Association=s (NFPA) buffer zone requirements for tanks containing ignitable or reactive waste. These requirements specify distances considered as safe buffer zones for various liquids based on the characteristics of all combustible and flammable liquids. Your local fire department can provide assistance with this requirement.
5. Do not store waste in the tank for more than 180 days before evaporating.

There are several companies that are selling evaporators that meet tank design requirements. The dry cleaner industry has shown particular interest in the use of evaporators for the disposal of perchloroethylene contaminated wastewater. Because of this interest the department has developed some specific recommendations for the drycleaners and will address them here. The recommendations are as follows:

1. Only use devices that meet the definition of "tank" and are designed and operated according to the appropriate regulatory standards, which are dependent on whether the facility is a CESQG, SQG or LQG.
2. Prefilter the wastewater to remove solvent. The department is aware that it may not be feasible to completely remove all solvent. Post filtration levels of one (1) part per million

and below is achievable. If filtration equipment capable of meeting these levels is being properly used the department will consider the performance standard to minimize releases under 40 CFR 265.31 to be met. Alternately a capture device may be used to prevent release of VHCs.

3. Maintain the filtering apparatus or capture devices according to manufacturing instructions.
4. Maintain the manufacturer's instructions and specifications on site to assist the operator in proper equipment use and to demonstrate to the department that the equipment and filtration media or capture device is being utilized per manufacturer's instructions.
5. Maintain records of equipment maintenance, filter changes, quantities of waste treated and other information as relevant to demonstrate proper equipment use.

Though the above recommendations are specific to drycleaners they may be useful to other industries contemplating the use of evaporators for wastewaters. It should be noted that the use of evaporators by drycleaners generally involves very small quantities of wastewater with very low concentrations of VHCs to begin with. Removal of the solvents by filtration is easily accomplished. The practicality of the use of evaporators for wastewaters generated by other industrial processes where greater quantities of waste is involved or which contain higher VHCs would have to be evaluated on a case by case basis.

Generators are reminded that the filter media must be evaluated to determine if it is a hazardous waste and managed accordingly. If wastewaters contain listed hazardous waste of any type the filter media will be a hazardous waste pursuant to the "derived from" rule at 40 CFR 261.3. Where listed waste is not involved the filter media must still be evaluated to determine if it is a characteristic hazardous waste. The generation and management of the filter media should be taken into account when evaluating the use of an evaporator.

In conclusion, under limited circumstances the use of evaporators by generators for dewatering hazardous waste may be conducted without a permit only if applicable management standards, as discussed above, are complied with. The overriding requirement is that hazardous waste constituents are not released to the environment. If you have questions regarding this guidance, or other questions regarding hazardous waste management please contact the Office of Land Quality, Compliance and Response Branch, Industrial Waste Section of IDEM at 317/308-3031or 1-800-451-6027.